



Comorbidity in chronic kidney disease in German outpatient care

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Abstract

Background

Chronic kidney disease is associated with increased morbidity across all body systems. The aim of this study was to quantify the comorbidity burden in people with diagnosed chronic kidney disease in outpatient care.

Methods

This case-control study used nationwide pseudonymized outpatient claims of the German statutory health insurance according to § 295 SGB V. Individuals aged 40 years and older with a diagnosis of chronic kidney disease in at least two quarters of the year 2022 were included as cases. Patients without a diagnosis of chronic kidney disease (controls) were matched 1:1 to cases by age, gender, and regions of the Association of Statutory Health Insurance Physicians (17 spatial units). Differences in the prevalence of 13 chronic diseases and multimorbidity, i.e., the co-occurrence of ≥ 3 , ≥ 5 , and ≥ 7 of these diseases, were assessed using prevalence ratios as the quotient of prevalence in cases and controls.

Results

A total of 2,938,114 individuals aged 40 and older with diagnosed chronic kidney disease and an equal number of controls without the diagnosis were matched by age, gender, and region (N= 5,876,228). All examined comorbidities occurred significantly more frequently in cases than in controls. The highest prevalence ratio (PR) of 17.7 (99% CI: 17.3-18.2) was observed for glomerular diseases, followed by heart failure (PR: 2.90, 99% CI: 2.88-2.93). Overall, 67.4% of the cases were affected by ≥ 3 chronic diseases, besides chronic kidney disease. Cardiovascular diseases, systemic autoimmune diseases, cystic kidney diseases, and the co-occurrence of ≥ 3 , ≥ 5 , and ≥ 7 chronic diseases showed increasing PR with increasing kidney damage.



Conclusion

People with diagnosed chronic kidney disease show a substantially increased comorbidity burden compared to controls, which progressively increases with the degree of kidney damage and results in high complexity of medical care of affected patients.

Keywords

Cardiovascular disease, case-control study, chronic kidney disease, comorbidity, kidney failure, prevalence, risk factors

Citation

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